

Air Quality

PERMIT TO CONSTRUCT

Permittee	Penford Products Company
Permit Number	P-2009.0011
Project ID	61533
Facility ID	019-00026
Facility Location	1088 W. Sunnyside Rd. Idaho Falls, ID

Permit Authority

This permit (a) is issued according to the “Rules for the Control of Air Pollution in Idaho” (Rules), IDAPA 58.01.01.200–228; (b) pertains only to emissions of air contaminants regulated by the State of Idaho and to the sources specifically allowed to be constructed or modified by this permit; (c) has been granted on the basis of design information presented with the application; (d) does not affect the title of the premises upon which the equipment is to be located; (e) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (f) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; and (g) in no manner implies or suggests that the Idaho Department of Environmental Quality (DEQ) or its officers, agents, or employees assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment. Changes in design, equipment, or operations may be considered a modification subject to DEQ review in accordance with IDAPA 58.01.01.200–228.

Date Issued DRAFT XX, 2015

Darrin Pampaian, P.E., Permit Writer

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1 Permit Scope

Purpose

- 1.1 This is a [modification](#) to a permit to construct (PTC) to allow an increase in hourly potato starch and corn starch and other fine-grained starches processing in the starch flash dryer.
- 1.2 Those permit conditions that have been modified or revised by this permitting action are identified by the permit issue date citation located directly under the permit condition and on the right-hand margin.
- 1.3 This PTC replaces Permit to Construct No. [P-2009.0011](#), issued on [May 7, 2009](#).

Regulated Sources

Table 1.1 lists all sources of regulated emissions in this permit.

Table 1.1 Regulated Sources

Permit Section	Source	Control Equipment
2	<u>Starch Flash Dryer</u>	
	Manufacturer: Barr Rosin	Twin Cyclones ¹
	Model: Flash Dryer Model Yr. 1989	Manufacturer: Barr Rosin
	Manufacture date: 1989	Model: Twin Cyclone Yr. 1989
	Max. Production Rate: 12,000 lbs/hr	Blower Rating: 200 hp
	Fuel: Natural gas only	
3	<u>Supersack Packaging Hopper</u>	Bin Vent Filter
	<u>Valve Sack Packaging Hopper</u>	Bin Vent Filter
	<u>East Bulk Storage</u>	Bin Vent Filter
	<u>West Bulk Storage</u>	Bin Vent Filter
	<u>Bulk Railcar Loadout</u>	N/A

¹ The twin cyclones are considered process equipment, not an air pollution control device.

[DRAFT]

2 Natural Gas-Fired Starch Flash Dryer

2.1 Process Description

The starch is dried in the natural gas-fired starch flash dryer. After drying, the final dry starch product is prepared for shipping in the packaging and bulk railcar loadout operation.

[5/7/2009]

2.2 Control Device Descriptions

Table 2.1 Natural Gas-Fired Starch Flash Dryer Description

Emissions Units / Processes	Control Devices	Emission Points
Starch Flash Dryer	N/A ¹	Stack 100

¹ – The twin cyclones installed on the exhaust from the starch flash dryer are considered process equipment, not a control device.

[5/7/2009]

Emission Limits

2.3 Emission Limits

The PM₁₀, SO₂, NO_x, CO, and VOC emissions from Stack No. 1 of the starch flash dryer shall not exceed any corresponding emissions rate limits listed in Table 2.2.

Table 2.2 Natural Gas-Fired Flash Dryer Emission Limits

Source Description	PM ₁₀ ^(b)		SO ₂		NO _x		CO		VOC	
	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)
Starch Flash Dryer	4.10	17.94	N/A	0.02	0.81	3.54	0.68	2.98	0.04	0.19

- a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, and record keeping requirements.
- b Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
- c Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
- d Tons per any consecutive 12-calendar month period.

[DRAFT]

2.4 Opacity Limit

Emissions from the starch flash dryer stack, or any other stack, vent, or functionally equivalent opening associated with the starch flash dryer, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

2.5 Allowable Fuel Types

The starch flash dryer shall only combust natural gas as fuel.

[5/7/2009]

2.6 Potato Starch Process Weight Rate Limit

The potato starch process weight rate shall not exceed 12,000 lb/hr on an 8-17% moisture basis.

[DRAFT]

2.7 Corn Starch and Other Fine-Grained Starches Process Weight Rate Limit

The corn starch and other fine-grained starches process weight rate shall not exceed 8,000 lb/hr on an 8-17% moisture basis.

[DRAFT]

2.8 Reasonable Control of Fugitive Emissions

In accordance with IDAPA 58.01.01.808.01, the permittee shall not cause, allow, or permit a plant to operate that is not equipped with an efficient fugitive dust control system. The system shall be operated and maintained in such a manner as to satisfactorily control the emission of particulate matter from any point other than the stack outlet.

In accordance with IDAPA 58.01.01.808.02, the permittee shall maintain fugitive dust control of the plant premises and plant owned, leased or controlled access roads by paving, oil treatment or other suitable measures. Good operating practices, including water spraying or other suitable measures, shall be employed to prevent dust generation and atmospheric entrainment during operations such as stockpiling, screen changing, and general maintenance.

All reasonable precautions shall be taken to prevent fugitive dust from becoming airborne in accordance with IDAPA 58.01.01.650-651 and 808. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of particulate matter. Some of the reasonable precautions include, but are not limited to, the following:

- Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
- Application, where practical, of asphalt, oil, water, or suitable chemicals to, or covering of, dirt roads, material stockpiles, and other surfaces which can create dust.
- Installation and use, where practical, of hoods, fans, fabric filters, or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations.
- Covering, where practical, of open bodied trucks transporting materials likely to give rise to airborne dusts.
- Paving of roadways and their maintenance in a clean condition, where practical.
- Prompt removal of earth or other stored material from streets, where practical.

Monitoring and Recordkeeping Requirements

2.9 Visible Emissions Monitoring

Visible emissions shall be monitored using a see/no see evaluation. The permittee shall conduct a daily inspection of Stack No. 1 of the starch flash dryer, and any other stack, vent, or functionally equivalent opening associated with the starch flash dryer, during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each daily visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken. Records shall be maintained according to General Provision seven.

2.10 Potato Starch Process Weight Monitoring

To demonstrate compliance with the Potato Starch Process Weight Rate Limit permit condition the permittee shall monitor and record the weight of each batch of potato starch from the flash dryer and the daily hours of operation of the flash dryer.

2.11 Corn Starch and Other Fine-Grained Starches Process Weight Monitoring

To demonstrate compliance with the Corn Starch and Other Fine-Grained Starches Process Weight Rate Limit permit condition the permittee shall monitor and record the weight of each batch of corn starch and other fine grained starches from the flash dryer and the daily hours of operation of the flash dryer.

[5/7/2009]

2.12 Fugitive Dust Monitoring

The permittee shall conduct a quarterly facility-wide inspection of potential sources of fugitive emissions, during daylight hours and under normal operating conditions, to ensure that the methods used to reasonably control fugitive emissions are effective. If fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each quarterly fugitive emission inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive emissions were present (if observed), any corrective action taken in response to the fugitive emissions, and the date the corrective action was taken. Records shall be maintained according to Recordkeeping General Provision.

2.13 Recordkeeping

The permittee shall comply with the recordkeeping requirements of the Recordkeeping General Provision.

[5/7/2009]

3 Packaging and Bulk Railcar Loadout

3.1 Process Description

The dry starch is transferred to a storage bin and/or separate packaging areas. The final dry starch product is packaged for subsequent shipping in 50-pound paper bags, 25-kg paper bags, 1,000-2,400 pound supersacks, or 180,000 pound bulk railcar shipments.

[5/7/2009]

3.2 Control Device Descriptions

Table 3.1 Packaging and Bulk Railcar Loadout Description

Emissions Units / Processes	Control Devices	Emission Points
Supersack Packaging Hopper	Bin Vent Filter	Stack 104
Valve Sack Packaging Hopper	Bin Vent Filter	Stack 105
East Bulk Storage	Bin Vent Filter	Stack 106
West Bulk Storage	Bin Vent Filter	Stack 107

[5/7/2009]

Emission Limits

3.3 Emission Limits

The PM₁₀ emissions from the packaging and bulk railcar loadout systems stacks shall not exceed any corresponding emissions rate limits listed in Table 3.2.

Table 3.2 Packaging and Bulk Railcar Loadout Emission Limits

Source Description	PM ₁₀ ^(b)	
	lb/hr ^(c)	T/yr ^(d)
Supersack Packaging Hopper	0.05	0.03
Valve Sack Packaging Hopper	0.05	0.22
East Bulk Storage	0.05	0.03
West Bulk Storage	0.05	0.03

- a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, and record keeping requirements.
- b Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
- c Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
- d Tons per any consecutive 12-calendar month period.

3.4 Opacity Limit

Emissions from the packaging and bulk railcar loadout systems stacks, or any other stack, vent, or functionally equivalent opening associated with the packaging and bulk railcar loadout systems, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

3.5 Reasonable Control of Fugitive Emissions

In accordance with IDAPA 58.01.01.808.01, the permittee shall not cause, allow, or permit a plant to operate that is not equipped with an efficient fugitive dust control system. The system shall be operated and maintained in such a manner as to satisfactorily control the emission of particulate matter from any point other than the stack outlet.

In accordance with IDAPA 58.01.01.808.02, the permittee shall maintain fugitive dust control of the plant premises and plant owned, leased or controlled access roads by paving, oil treatment or other suitable measures. Good operating practices, including water spraying or other suitable measures, shall be employed to prevent dust generation and atmospheric entrainment during operations such as stockpiling, screen changing, and general maintenance.

All reasonable precautions shall be taken to prevent fugitive dust from becoming airborne in accordance with IDAPA 58.01.01.650-651 and 808. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of particulate matter. Some of the reasonable precautions include, but are not limited to, the following:

- Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
- Application, where practical, of asphalt, oil, water, or suitable chemicals to, or covering of, dirt roads, material stockpiles, and other surfaces which can create dust.
- Installation and use, where practical, of hoods, fans, fabric filters, or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations.
- Covering, where practical, of open bodied trucks transporting materials likely to give rise to airborne dusts.
- Paving of roadways and their maintenance in a clean condition, where practical.
- Prompt removal of earth or other stored material from streets, where practical.

Monitoring and Recordkeeping Requirements

3.6 Visible Emissions Monitoring

Visible emissions shall be monitored using a see/no see evaluation. The permittee shall conduct a weekly inspection of the packaging and bulk railcar loadout systems stacks and any other stack, vent, or functionally equivalent opening associated with the supersack packaging, valve sack packaging, East bulk storage, or West bulk storage operations, during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each daily visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

3.7 Fugitive Dust Monitoring

The permittee shall conduct a quarterly facility-wide inspection of potential sources of fugitive emissions, during daylight hours and under normal operating conditions, to ensure that the methods used to reasonably control fugitive emissions are effective. If fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each quarterly fugitive emission inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive emissions were present (if observed), any corrective action taken in response to the fugitive emissions, and the date the corrective action was taken. Records shall be maintained according to the Recordkeeping General Provision.

3.8 Recordkeeping

The permittee shall comply with the recordkeeping requirements of the Recordkeeping General Provision.

[5/7/2009]

4 General Provisions

General Compliance

- 4.1** The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the “Rules for the Control of Air Pollution in Idaho.” The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit, the “Rules for the Control of Air Pollution in Idaho,” and the Environmental Protection and Health Act (Idaho Code §39-101, et seq.)

[Idaho Code §39-101, et seq.]

- 4.2** The permittee shall at all times (except as provided in the “Rules for the Control of Air Pollution in Idaho”) maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

[IDAPA 58.01.01.211, 5/1/94]

- 4.3** Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules, and regulations.

[IDAPA 58.01.01.212.01, 5/1/94]

Inspection and Entry

- 4.4** Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:

- Enter upon the permittee’s premises where an emissions source is located, emissions-related activity is conducted, or where records are kept under conditions of this permit;
- Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
- As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

- 4.5** This permit shall expire if construction has not begun within two years of its issue date, or if construction is suspended for one year.

[IDAPA 58.01.01.211.02, 5/1/94]

- 4.6** The permittee shall furnish DEQ written notifications as follows:

- A notification of the date of initiation of construction, within five working days after occurrence; except in the case where pre-permit construction approval has been granted then notification shall be made within five working days after occurrence or within five working days after permit issuance whichever is later;
- A notification of the date of any suspension of construction, if such suspension lasts for one year or more;

- A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date; and
- A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and
- A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211.03, 5/1/94]

Performance Testing

- 4.7** If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.
- 4.8** All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.
- 4.9** Within 60 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00 and 4/11/15]

Monitoring and Recordkeeping

- 4.10** The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Monitoring records shall include, but not be limited to, the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

Excess Emissions

- 4.11** The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130–136 for excess emissions due to start-up, shut-down, scheduled maintenance, safety measures, upsets, and breakdowns.

[IDAPA 58.01.01.130–136, 4/5/00]

Certification

- 4.12** All documents submitted to DEQ—including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification—shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

- 4.13** No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

- 4.14** No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

- 4.15** This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Severability

- 4.16** The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[IDAPA 58.01.01.211, 5/1/94]